IN THE CLAIMS

Please cancel claim 33 without prejudice or disclaimer.

Please cancel claims 21-25 and 39-88, without prejudice or disclaimer, as being drawn to a non-elected invention.

Please substitute the following amended claims for the corresponding original claims. A marked copy of the claim amendments is attached hereto.

1. (twice amended) A substrate processing chamber comprising:

(a) a support;

(b) a gas distributor;

(c) a gas energizer;

(d) a wall comprising a radiation transmitting portion;

(e) a mask overlying the radiation transmitting portion, the mask having an aperture comprising an aspect ratio that is selected to reduce deposition of process residue on the radiation transmitting portion; and

(f) an exhaust,

whereby a substrate held on the support may be processed by process gas distributed by the gas distributor, energized by the gas energizer, and exhausted by the exhaust, and whereby radiation may be transmitted through the aperture of the mask and the radiation transmitting portion.

16. (amended) A substrate processing chamber according to claim 12 wherein the means for reducing deposition of process residue on the radiation transmitting portion comprises an overlying mask comprising an aperture having an aspect ratio of from about 0.25:1 to about 3:1.

19. (twice amended) A substrate processing chamber comprising:

(a) a support;

(b) a gas distributor;

(c) a gas energizer;

(d) a radiation transmitting portion comprising a mask with a plurality of apertures, the apertures having an aspect ratio that is selected to reduce deposition of process residues on the radiation transmitting portion; and

(e) an exhaust;

whereby a substrate held on the support may be processed by process gas distributed by the gas distributor, energized by the gas energizer, and exhausted by the exhaust, and whereby radiation may be transmitted through the apertures and the radiation transmitting portion.

26. (amended) A window capable of being mounted on a process chamber, the window comprising:

a radiation transmitting portion; and

an overlying mask comprising a plurality of apertures having an aspect ratio that is selected to reduce deposition of process residues on the radiation transmitting portion,

whereby radiation may be transmitted through the window when a substrate is processed in the process chamber.

27. (twice amended) A window according to claim 26 wherein the apertures have an aspect ratio that is sufficiently large to reduce access of process gas to the radiation transmitting portion.

28. (twice amended) A window according to claim 26 wherein the mask apertures have an aspect ratio of from about 1:1 to about 12:1.

29. (twice amended) A window according to claim 26 wherein the apertures have an aspect ratio that is sufficiently small to allow ions of an energized process gas to enter the apertures and etch away the process residues formed on a sidewall of the apertures and on the window.

30. (twice amended) A window according to claim 26 wherein the apertures have an aspect ratio of from about 0.25:1 to about 3:1.

31. (twice amended) A window according to claim 26 wherein the apertures have a diameter or width of from about 0.1 to about 50 mm, and a height of about 0.5 to about 500 mm.

Please add the following new claims:

89. (new) A substrate processing chamber comprising:

(a) a support;

(b) a gas distributor;

(c) a gas energizer;

(d) a wall comprising a radiation transmitting portion;

(e) a mask overlying the radiation transmitting portion, the mask having an aperture;

(f) an electrical field source that is adapted to couple electrical energy to the wall to reduce deposition of process residues on the wall; and

(g) an exhaust,

whereby a substrate held on the support may be processed by process gas distributed by the gas distributor, energized by the gas energizer, and exhausted by the exhaust, and whereby the mask is adapted to reduce deposition of process residue on the radiation transmitting portion and whereby radiation may be transmitted through the aperture of the mask and the radiation transmitting portion.

90. (new) A substrate processing chamber according to claim 89 wherein the aperture has an aspect ratio that is sufficiently large to reduce access of process gas to the radiation transmitting portion.

91. (new) A substrate processing chamber according to claim 89 wherein the aperture has an aspect ratio of from about 1:1 to about 12:1.

92. (new) A substrate processing chamber according to claim 89 wherein the aperture has an aspect ratio that is sufficiently small to allow ions of the energized process gas to enter the aperture and etch away the process residue formed on a sidewall of the aperture and on the radiation transmitting portion.

93. (new) A substrate processing chamber according to claim 89 wherein the aperture has an aspect ratio of from about 0.25:1 to about 3:1.

94. (new) A substrate processing chamber according to claim 89 wherein the aperture has a diameter or width of from about 0.1 to about 50 mm, and a height of about 0.5 to about 500 mm.

95. (new) A substrate processing chamber according to claim 89 wherein the mask comprises an array of hexagonal apertures.

96. (new) A substrate processing chamber comprising:

(a) a support;

(b) a gas distributor;

(c) a gas energizer;

(d) a wall comprising a radiation transmitting portion;

(e) a mask overlying the radiation transmitting portion, the mask having an aperture;

(f) a magnetic field source adapted to provide a magnetic flux across the wall to reduce deposition of process residues on the wall; and

(g) an exhaust,

whereby a substrate held on the support may be processed by process gas distributed by the gas distributor, energized by the gas energizer, and exhausted by the exhaust, and whereby the mask is adapted to reduce deposition of process residue on the radiation transmitting portion and whereby radiation may be transmitted through the aperture of the mask and the radiation transmitting portion.

97. (new) A substrate processing chamber according to claim 96 wherein the aperture has an aspect ratio that is sufficiently large to reduce access of process gas to the radiation transmitting portion.

98. (new) A substrate processing chamber according to claim 96 wherein the aperture has an aspect ratio of from about 1:1 to about 12:1.

99. (new) A substrate processing chamber according to claim 96 wherein the aperture has an aspect ratio that is sufficiently small to allow ions of the energized process gas to enter the aperture and etch away the process residue formed on a sidewall of the aperture and on the radiation transmitting portion.

100. (new) A substrate processing chamber according to claim 96 wherein the aperture has an aspect ratio of from about 0.25:1 to about 3:1.

101. (new) A substrate processing chamber according to claim 96 wherein the aperture has a diameter or width of from about 0.1 to about 50 mm, and a height of about 0.5 to about 500 mm.

102. (new) A substrate processing chamber according to claim 96 wherein the mask comprises an array of hexagonal apertures.

103. (new) A substrate processing chamber comprising:

(a) a support having a receiving surface capable of supporting a substrate;

(b) a gas distributor capable of providing process gas in the chamber and a gas energizer that is capable of coupling energy to the process gas;

(c) a radiation transmitting portion that allows radiation to be transmitted therethrough to monitor processing of the substrate;

(d) means extending into the interior of the chamber for reducing deposition of process residue from process gas on the radiation transmitting portion;

(e) an electrical field source that couples electrical energy to the radiation transmitting portion to further reduce deposition of process residues on the radiation transmitting portion; and

(f) an exhaust capable of exhausting process gas from the chamber.

104. (new) A substrate processing chamber according to claim 103 wherein the means for reducing deposition of process residue on the radiation transmitting portion comprises means for controlling access of energized process gas species to the radiation

transmitting portion.

105. (new) A substrate processing chamber according to claim 103 wherein the means for reducing deposition of process residue on the radiation transmitting portion comprises a mask capable of masking the radiation transmitting portion from the energized process gas.

106. (new) A substrate processing chamber according to claim 103 wherein the means for reducing deposition of process residue on the radiation transmitting portion comprises an overlying mask having apertures with an aspect ratio of from about 1:1 to about 12:1.

107. (new) A substrate processing chamber according to claim 103 wherein the means for reducing deposition of process residue on the radiation transmitting portion comprises an overlying mask having apertures with an aspect ratio of from about 0.25:1 to about 3:1.

108. (new) A substrate processing chamber comprising:

(a) a support having a receiving surface capable of supporting a substrate;

(b) a gas distributor capable of providing process gas in the chamber and a gas energizer that is capable of coupling energy to the process gas;

(c) a radiation transmitting portion that allows radiation to be transmitted therethrough to monitor processing of the substrate;

(d) means extending into the interior of the chamber for reducing deposition of process residue from process gas on the radiation transmitting portion;

(e) a magnetic field source adapted to provide a magnetic flux across the radiation transmitting portion to further reduce the deposition of process residues on the radiation transmitting portion.; and

(f) an exhaust capable of exhausting process gas from the chamber.

109. (new) A substrate processing chamber according to claim 108 wherein the means for reducing deposition of process residue on the radiation transmitting portion comprises means for controlling access of energized process gas species to the radiation transmitting portion.

110. (new) A substrate processing chamber according to claim 108 wherein the means for reducing deposition of process residue on the radiation transmitting portion comprises a mask capable of masking the radiation transmitting portion from the energized process gas.

111. (new) A substrate processing chamber according to claim 108 wherein the means for reducing deposition of process residue on the radiation transmitting portion comprises an overlying mask having apertures with an aspect ratio of from about 1:1 to

about 12:1.

112. (new) A substrate processing chamber according to claim 108 wherein the means for reducing deposition of process residue on the radiation transmitting portion comprises an overlying mask having apertures with an aspect ratio of from about 0.25:1 to about 3:1.

113. (new) A window capable of being mounted on a process chamber, the window comprising:

a radiation transmitting portion;

an overlying mask with an aperture; and

an electrical field source that is adapted to couple electrical energy to the radiation transmitting portion to reduce deposition of the process residues on the radiation transmitting portion,

whereby the mask is adapted to reduce deposition of process residue on the window and whereby radiation may be transmitted through the window when a substrate is processed in the process chamber.

114. (new) A window according to claim 113 wherein the aperture has an aspect ratio that is sufficiently large to reduce access of process gas to the radiation transmitting portion.

115. (new) A window according to claim 113 wherein the mask aperture has an aspect ratio of from about 1:1 to about 12:1.

116. (new) A window according to claim 113 wherein the aperture has an aspect ratio that is sufficiently small to allow ions of an energized process gas to enter the aperture and etch away the process residues formed on a sidewall of the aperture and on

window.

117. (new) A window according to claim 113 wherein the aperture has an aspect ratio of from about 0.25:1 to about 3:1.

118. (new) A window according to claim 113 wherein the aperture has a diameter or width of from about 0.1 to about 50 mm, and a height of about 0.5 to about 500 mm.

119. (new) A window according to claim 113 wherein the mask comprises a plurality of apertures.

120. (new) A window according to claim 119 wherein the mask comprises an array of hexagonal apertures.

121. (new) A window capable of being mounted on a process chamber, the window comprising:

a radiation transmitting portion;

an overlying mask with an aperture; and

a magnetic field source adapted to provide a magnetic flux across the radiation transmitting portion to reduce deposition of process residues on the radiation transmitting portion,

whereby the mask is adapted to reduce deposition of process residue on the window and whereby radiation may be transmitted through the window when a substrate is processed in the process chamber.

122. (new) A window according to claim 121 wherein the aperture has an aspect ratio that is sufficiently large to reduce access of process gas to the radiation

transmitting portion.

123. (new) A window according to claim 121 wherein the mask aperture has an aspect ratio of from about 1:1 to about 12:1.

124. (new) A window according to claim 121 wherein the aperture has an aspect ratio that is sufficiently small to allow ions of an energized process gas to enter the aperture and etch away the process residues formed on a sidewall of the aperture and on window.

125. (new) A window according to claim 121 wherein the aperture has an aspect ratio of from about 0.25:1 to about 3:1.

126. (new) A window according to claim 121 wherein the aperture has a diameter or width of from about 0.1 to about 50 mm, and a height of about 0.5 to about 500 mm.

127. (new) A window according to claim 121 wherein the mask comprises a plurality of apertures.

128. (new) A window according to claim 127 wherein the mask comprises an array of hexagonal apertures.